Some Basic work on DVDD current through the Jumper connection

This is a simple L1A-Digitize-Readout cycle for a ladder with 6 chips (3 Phi and 3 Z) and they are all set in read-all mode
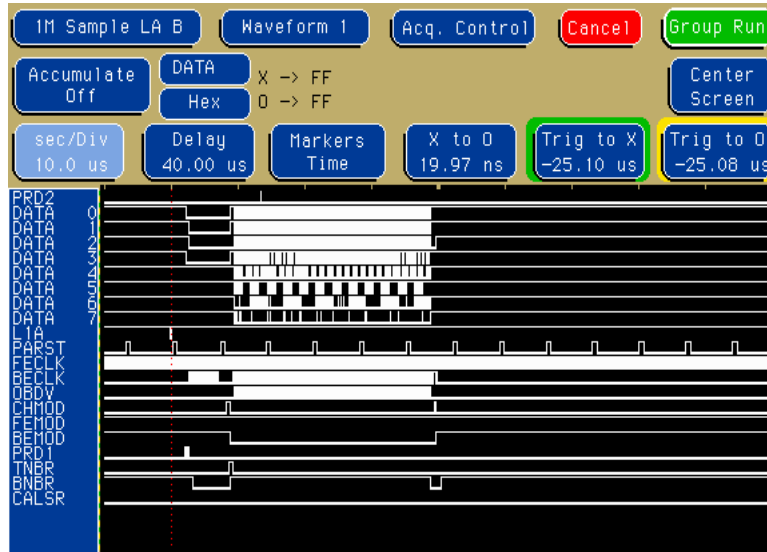

Figure 1 Signals pattern to/from the ladder

And here is the corresponding currents consumption.

The total AVDD current is 440 mA and it drops to 420 mA toward the end of readout. This is a bit surprising to me and I hope somebody can explain it.

The total DVDD current is about 40 mA in quiet mode and it raise to about 170 mA toward the end of readout

The DVDD current through the JUMPER connection (the Jumper connection is usually wirebond-JumperVia-wirebond is here replaced with a discrete wire so that I can place the current probe) is about 20 mA in quiet time and it grows during digitize to then go negative while the first PHI chips readout and then go back up to 145 mA toward the end of readout. I would say that there are no big surprises on the DVDD current behavior.
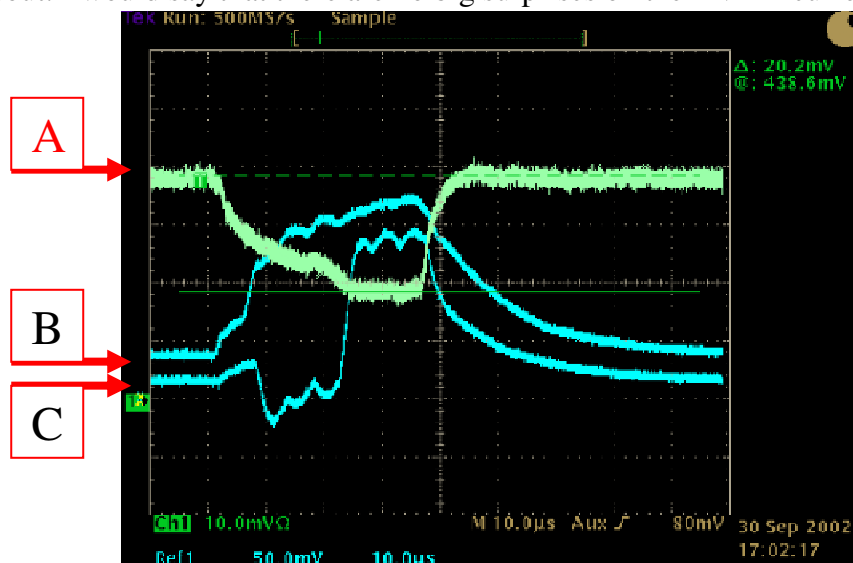
Figure 2 Currents drawn during the pattern of Figure 1: A is the AVDD current feeding the ladder, B is the DVDD current feeding the ladder and C is the DVDD current going through the Jumper connection